

US Serial No. 10/539,424

Amendment Dated: June 4, 2009

Response to Office Action Dated: April 28, 2009

Amendments to the Claims:

Please amend claims 24-26, 28 and 30-32 as follows:

1-20. (Cancelled)

21. (Previously Presented) An apparatus for on-farm separation of at least one milk component from milk, the apparatus comprising:

- (i) a robotic milking device having a stall for milking a dairy animal and which is adapted to allow one dairy animal to freely enter at any time;
- (ii) a first holding vessel connected to the stall for receiving successive measures of milk from successive dairy animals;
- (iii) at least one first separation device connected to said first holding vessel for receiving the successive measures of milk and separating each measure of milk into at least one refined milk component according to at least one physicochemical property of the component and a residual milk measure, and
- (iv) a bulk tank connected to each separation device for accumulating the successive residual milk measures.

22. (Cancelled)

23. (Cancelled)

24. (Currently Amended) The apparatus of claim 21 wherein said at least one of ~~said~~first separation devices device is configured to enable ~~for~~ substitution or replacement of cartridges.

25. (Currently Amended) The apparatus of claim 21 wherein said at least one of ~~said~~first separation devices device is configured to enable the cleaning or elution of cartridges.

26. (Currently Amended) A method for on-farm separation of at least one milk component from the milk produced by a plurality of dairy animals, comprising the steps of:

- (i) extracting a measure of milk from one of said dairy animals in a stall of a robotic milking device adapted to allow one dairy animal to freely enter at any time;
- (ii) passing said measure of milk to a holding vessel feeding at least one separation device;

- (iii) operating said at least one separation device to separate said measure of milk into said-at least one refined milk component according to at least one physicochemical property of the component and a residual milk measure; and
- (iv) repeating steps (i) to (iii) in turn for each of said plurality of dairy animals.

27. (Cancelled)

28. (Currently Amended) The method of claim 26 wherein the at least one of said refined milk component ~~components~~ separated by the method is lactoferrin.

29. (Previously Presented) The method of claim 26 wherein the dairy animal is a cow.

30. (Currently Amended) The method of claim 26 wherein said at least one of said ~~separation devices~~ device performs ultrafiltration.

31. (Currently Amended) The method of claim 26 wherein said at least one of said ~~separation devices~~ device performs chromatographic separation.

32. (Currently Amended) The method of claim 26 wherein said at least one of said ~~separation devices~~ device performs dialysis.

33. (Previously Presented) An apparatus for on-farm separation of at least one milk component from milk, the apparatus comprising:

- (i) a robotic milking device having a stall for milking a dairy animal and which is adapted to allow one dairy animal to freely enter at any time;
- (ii) a first holding vessel connected to the stall for receiving successive measures of milk from successive dairy animals;
- (iii) at least one first separation device connected to said first holding vessel for receiving the successive measures of milk and separating each measure of milk into said at least one milk component and a residual milk measure;
- (iv) a bulk tank connected to each separation device for accumulating the successive residual milk measures;
- (v) a second holding vessel connected to said stall for receiving successive measures of milk from respective dairy animals in alternation with the first holding vessel;
- (vi) at least one second separation device connected to said second holding vessel for receiving the respective measures of milk and separating each measure of milk into said at least one milk component and a residual milk measure; and
- (vii) a conduit for passing residual milk measures from the second separation device to the bulk tank.

34. (Previously Presented) The apparatus of claim 33 wherein at least one of said separation devices is a modular cartridge unit incorporating a matrix for removing at least one specific milk component.

35. (Previously Presented) A method for on-farm separation of milk components from the milk produced by first, second and third dairy animals sequentially milked using the apparatus of claim 33, comprising the steps of:

- (viii) extracting a first measure of milk from the first dairy animal in said stall;
- (ix) passing said first measure of milk to said first holding vessel;
- (x) operating said at least one first separation device to empty the first holding vessel and to separate said first measure of milk into at least one first milk component and a first residual milk measure, while extracting a second measure of milk from the second dairy animal in said stall and passing said second measure of milk to the second holding vessel; and
- (xi) operating said at least one second separation device to empty the second holding vessel and to separate said second measure of milk into at least one second milk component and a second residual milk measure, while extracting a third measure of milk from the third dairy animal in said stall and passing said third measure of milk to the first holding vessel.